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SURVEY FOR WHEAT DISEASES IN NEW YORK

Reported by Charles Chupp

Sixty-seven wheat fields were surveyed in 16 counties in western New York from July 17 to 21. Fields showed remarkably little infection of stinking smut. One field in Chautauqua County showed 30 per cent of the heads diseased and 5 per cent of the heads were smutted in one field in Yates County. Traces were seen in several other fields.

Leaf rust, caused by Puccinia triticina, is producing probably more damage than any other wheat disease. It occurs in all fields to some extent, frequently on 100 per cent of the leaves. It caused premature yellowing of leaves in a great many fields.

Septoria glume blotch, caused by Septoria nodorum, is also a serious wheat disease in western New York. Only a few Septoria-free fields occur. One field in Chautauqua County had 30 per cent of the heads in the initial stages of infection. In practically all the fields where wheat was in the hard dough stage a pycnidial fungus resembling S. nodorum was to be seen on the leaves. It had caused much premature yellowing. Although doubtless some of the trouble was induced by S. tritici this fungus was not definitely identified on any of the leaves in spite of the fact that it was observed on wheat before ripening in the vicinity of Ithaca.

Scab, caused by Gibberella saubinetii, brought about considerable damage in a few scattered fields and occurred to some extent in practically all fields. The total damage probably was not so great as last year.

Take-all (Ophiobolus graminis) occurred in two fields in Cayuga County, two in Wayne County, and one in Ontario County. The disease was estimated as reducing the crop by a half in one field in Wayne County and by a third in the field of Ontario County.

Loose smut, caused by Ustilago tritici, was not serious anywhere, causing a maximum of only 1 per cent in two fields in Wayne County.

Anthracnose, caused by Colletotrichum graminicolum, was found in several fields but it was not a serious disease producer.

Powdery mildew occurred destructively in a field near Ithaca where over 75 per cent of the plants were infected. At flowering time the field appeared yellow from the highway as a result of the disease. The survey revealed the fungus in many other fields but it was not so serious in them. Dr. L. M. Massey saw one field the last week of July in Rockland County in eastern New York where it was causing considerable loss.

SCAB OF CEREALS (GIBBERELLA SAUBINETII)

Wisconsin: Developing extensively on barley up to 50 per cent of heads in a few fields in southern Wisconsin seeded on poorly prepared corn stubble. (Vaughan, Aug. 1)

Reported in a few oat fields where corn root rot occurred last year. (Vaughan, Aug. 15)

Iowa: The attack of this fungus has been rather spotted this year on wheat. In some sections it is severe even on Durum wheats. In some cases the damage to spring wheat is 4 per cent. (R. H. Porter, July 20)

Quite common on Velvet and other barleys. About 1.5 per cent damage for the state. (R. H. Porter, July 1)

North Dakota: General on wheat, very severe infection in many fields. Continued wet weather in July appears to account for the severity of the disease this year. (Brentzel, July 15)

OAT SMUTS (USTILAGO SPP.) IN WISCONSIN AND IOWA

Wisconsin: More abundant than in any recent year. Fields 25 to 50 per cent not uncommon. Even treated seed shows a trace of smut. Average will probably be 10 per cent. Opportunity for seed treatment campaign next year. (Vaughan, Aug. 15)

Iowa: A very severe epidemic of oat smut occurred this year. In northeastern Iowa some fields run as high as 50 per cent smut. Treatment with one of our dusts or with formaldehyde practically eliminated smut in every field observed. (R. H. Porter, Aug. 8)

HELMINTHOSPORIUM AVENAE REPORTED ON OATS IN CONNECTICUT

G. P. Clinton reports (August 15) that yellowed leaves on oats have been common, but it is not certain that this is due entirely to H. avenae. The fungus is new to the state.

BARLEY MILDEW (ERYSIPHE GRAMINIS) PREVALENT IN OREGON

"Very prevalent and in some instances very damaging in barley plantings in western Oregon. Unusual spring rains and prolonged cool and cloudy weather may be a contributing factor to this unusual situation. Wheat and oats not reported as affected." (Barss, July 15)

LATE BLIGHT OF POTATO (PHYTOPHTHORA INFESTANS)

Maine: On July 25 to 26 a number of fields were examined in Washington County, in eastern Maine. Not a trace of late blight was found except in one small seed plot, otherwise completely disease-free, planted with seed grown in central Maine in 1927 with late blight there causing severe injury generally. Source of seed seems to have been the determining factor in 1928, since even 400 feet distant from the infected piece there was no disease in native-grown seed though the plants were in the same stage of growth and apparently in the same cultural conditions. (Folsom, Aug. 1)

During the last third of July late blight was found in Aroostook County as well as in the eastern part of the state, with promises of causing severe injury in the event of favorable conditions. (Folsom, Aug. 15)

Massachusetts: I first found late blight on the foliage of potatoes on August 4 this year. That was in Amherst. As yet (August 8), the disease has not done much damage, at least in sprayed fields, although the weather has favored blight. (Doran, Aug. 8)

Connecticut: This continues to appear in fields, but so slowly as to cause little damage, as yet. (Clinton, Aug. 15)

New York - Suffolk County: We estimate that the potato crop will be only about 65 per cent of the 1927 crop. Blight has reduced about 25 per cent and the recent hot weather about 10 per cent. (W. G. Been, Aug. 6)

Onondaga County: The weather during the past week has been very good for late blight which is beginning to show on potatoes. (W. E. Field, Aug. 6)

Genesee County: Late blight was found in one field on August 2. (R. L. Payne, Aug. 6)

POTATO LEAF ROLL IN NEW YORK

Genesee County: Severe in practically all fields that have been grown for more than two years without roguing. One field was found to be 95 per cent leaf roll. (R. L. Payne, July 30)

Onondaga County: Very abundant in most fields. Many certified seed growers have had their fields thrown out due to the high percentage of leaf roll in their seed. (W. E. Field, Aug. 6)

BLACK LEG OF POTATO (BACILLUS PHYTOPHTHORUS)

Wisconsin: Present in varying amounts in Cobbler and Early Ohio fields. Heavy losses up to 50 per cent reported in a few fields in Portage County. Marked control is seen where the seed was treated. (Vaughan, Aug. 1)

North Dakota: Wet weather has favored severe black leg development. Many fields are reported to run as high as 10 to 25 per cent infected plants. (Brentzel, July 15)

SCLEROTIUM ROT OF CANTALOUPE IN ARKANSAS

H. R. Rosen reports (August 15) that fruit rot due to Sclerotium rolfsii is severe in the region around Hope and Fort Smith. The fungus attacks the fruits in various stages of development, causing a soft mushy rot. Stem rot has not been observed.

CUCURBIT DISEASES IN IOWA

"More mosaic has been observed on cantaloupe than for a number of years. Marked stunting of the vines has been noted." (R. H. Porter, Aug. 7)

"Mosaic has been observed on hybrids between watermelon and citron for the past two years. This year it is serious on F1, F2, and F3 hybrids." (R. H. Porter, Aug. 10)

"Anthracnose (Colletotrichum lagenarium) is beginning to develop on cantaloupes and watermelons but is not serious as yet on cantaloupes. In Muscatine County it has caused defoliation of half the plants of some fields of watermelons. Bordeaux 4-4-50 is holding it in check. In a 3 1/2 acre field at Oskaloosa not a single plant was found free from the disease according to D. R. Porter." (R. H. Porter, Aug. 8)

BACTERIAL SPOT OF TOMATO AND PEPPER (BACTERIUM VESICATORIUM)

A report from J. F. Adams (August 15) states that foliage and fruit infection of tomato was observed at Kenton, Delaware, July 24. Leaf spot of pepper was common at Bridgeville on August 2. The disease has not been found in Delaware previously.

In Kansas, according to O. H. Elmer (August 1), bacterial spot is more common on tomatoes than usual and is causing considerable loss in certain fields. It is especially serious on fruits to be shipped.

TOMATO LEAF SPOT (SEPTORIA LYCOPERSICI)

West Virginia: Widespread. In nearly all plantings the leaves on the lower half of plants are dead. The damage at the present time no doubt is slight. (Archer, Aug. 15)

Iowa: In a number of cases the leaves of an entire plant have been killed by this disease. It is causing at least 5 per cent damage in commercial fields. In one field in Muscatine County complete defoliation occurred. (R. H. Porter, Aug. 8)

Kansas: Very serious. Reports from eastern half of state indicate this disease to be causing serious defoliation. (Elmer, Aug. 1)

BACTERIAL LEAF SPOT OF HORSERADISH IN CONNECTICUT

"Have found this new disease, which is being studied by Dr. McCulloch of the U. S. Department of Agriculture, rather prominent in one field." (Clinton, Aug. 15)

THE STRAWBERRY DISEASE SITUATION IN LOUISIANA DURING THE 1928 BERRY SEASON

Reported by A. G. Plakidas

1. Leaf spot (Mycosphaerella fragariae). Leaf spot infection was general, and rather severe in some fields, causing perhaps 15 to 20 per cent loss in the heavily infected patches.

2. Scorch (Diplocarpon earliana). The scorch infection was about equal in severity and extent to the leaf spot. Some growers obtained excellent control for both the leaf spot and the scorch by spraying with 4-4-50 Bordeaux, while others claim that spraying gave negative results.

3. Crown rot (Sclerotinia sclerotiorum). Local, light infection. Damage very slight.

4. Dwarf. (Phytopath. 18 (5), 1928.) Infection general, 2 to 3 per cent in carefully rogued pathces, 15 to 20 per cent in fields where no roguing is practiced.

5. Root rot and growth failure. The growth failure-root rot complex is one of the most serious troubles of the strawberry in Louisiana, the cause or causes of which are little understood. It is manifested in varying degrees of severity. In some cases the plants merely do not make a good growth, even when conditions for growth are apparently favorable. This is especially true in the older strawberry sections of the state. In other, more extreme cases, the roots decay and the plants die. Several factors are apparently involved in this growth-failure complex. Soil impoverishment resulting from continuous strawberry planting over a long period of years may be one factor. The dwarf disease also may be a contributing factor. Then, too, the planting of strawberries on the same ground over a long period of years, without rotation, must of necessity result in the accumulation of root parasites in the soil. The problem of growth failure is at present under investigation in this state.

6. Fruit rots. The losses from fruit rots were relatively insignificant, perhaps not more than 1 to 2 per cent, due to the cool, dry weather which prevailed during the picking season. The leather-rot type (Phytophthora cactorum) was the most prevalent. Over 60 per cent of the rotted berries examined showed this type of rot. The Rhizoctonia hard brown rot came second, with about 20 per cent.

WINTER KILLING OF STRAWBERRIES IN MINNESOTA

"Strawberries in southern half of state injured severely. Many low spots completely killed out. Much of damage undoubtedly due to open winter and ice sheet from winter rains." (Sect. Pl. Path., Aug. 1)

RASPBERRY DISEASES REPORTED FROM NEW YORK AND PENNSYLVANIA

Mycosphaerella rubi in New York: A number of raspberry plantings in Erie County were visited July 26. Among the many varieties of raspberries grown there is a red one known as the Adams 87, recently imported from Canada because of its resistance to mosaic. Every planting of this variety had the lower leaves badly spotted by the Septoria leaf spot. None of the other varieties were affected even though in one case the leaves intermingled with those of the Cuthbert. (Chupp, July 28)

Anthracnose and crown gall in Pennsylvania: Last week I was out in the state working with raspberries in the counties of Clearfield, Jefferson, Venango, and Erie. Where the growers have not sprayed we find anthracnose (Plectodiscella veneta) is occurring as an epidemic. It is not uncommon to find 90 per cent of the stems girdled and frequently the tips of the young stems are killed. Kirby and I also found the fungus attacking the berries. In a number of cases we found what appeared as if the fungus was attacking the base of the stem causing a partial decay. At least it so weakened the stem that the least wind broke the stems over. Wherever any thorough spraying was done the disease was reduced to a minimum. We also found crown gall (Bacterium tumefaciens) fairly well scattered through these sections, ranging up as high as 8 or 10 per cent of the plants. (Zundel, July 30)

APPLE DISEASES IN TENNESSEE

The following statement was received from N. D. Peacock:

"I have not had an opportunity to make a complete survey, but in brief visits through the fruit section, I find that on apples scab (Venturia inaequalis) is unusually severe, especially on susceptible varieties such as Winesap and Delicious. In some orchards the injury runs as high as 90 per cent of the

fruit. In well sprayed orchards, however, the injury is much less than this. Bitter rot (Glomerella cingulata) has not been severe on early varieties which have already been marketed. It is developing rapidly, however, and in orchards where there is a serious infection, it is generally present over the trees at the present time. There is a wide variation of the seriousness of this disease in different orchards. In some, as high as 10 per cent of the fruits are already showing bitter rot spots. Blotch (Phyllosticta solitaria) has been very severe in unsprayed orchards. In many orchards which were not sprayed, the percentage would run above 90, while in orchards that were carefully sprayed, the percentage was probably less than 10. Cedar rust (Gymnosporangium juniperi-virginianae) is also general on susceptible varieties, and is causing severe leaf and fruit injury. Throughout practically all of east Tennessee fire blight (Bacillus amylovorus) is more general on apples this year than common. In middle and west Tennessee, the injury is approximately normal." (July 27)

APPLE AND PEAR SCAB UNUSUALLY PREVALENT IN OREGON

H. P. Barss (July 15) reports that scab is worse this year than for many years due to early rains and continued cool weather.

MONILIA SPUR BLIGHT OF PEAR IN OREGON

"This year serious loss is reported from Douglas County on d'Anjou and Winter Nelis pears from the European type of Monilia (Sclerotinia cinerea f. pruni (?), not S. fructicola). One case on d'Anjou was reported where the owner expects only a fourth of a crop due to the disease. Worse on Winter Nelis than on d'Anjou in that neighborhood." (Barss, July 15)

PEAR LEAF SPOT IN ARKANSAS

"Leaf spot on several varieties of pears, caused by Septoria pyricola (Mycosphaerella sentina) has been very active for over a month and has caused considerable defoliation on unsprayed trees. It is of interest to note that Flemish Beauty and Winter Nelis, which are considered somewhat resistant in the North, are showing more damage than the Sheldon and Seckel varieties. Kieffer and Lincoln, on the other hand, appear to be somewhat resistant in the region around Fayetteville. Other varieties which are suffering from this disease are Garber and Anjou. The disease was extremely prevalent last year during the latter part of the

growing season but this year it started about the first part of June and was very conspicuous by the first week in July, with many leaves turning yellow and dropping off from the trees." (Rosen, Aug. 15)

SOME REPORTS ON PEACH DISEASES

Winter injury (?) in Arkansas: A relatively large number of young and old peach trees are reported to have died out in the main peach section of the state. No specimens have been received but the following symptoms are noted: A killing of the bark around the base of the tree, discoloration and dropping of the foliage, premature ripening and lack of quality in the fruit. Growers insist it is not winter injury because the disease did not appear until late in the growing season, but it is to be questioned if this would entirely exclude winter injury. It has been ascertained by extension workers that the crown injury was not due to paradichlorobenzene, to oil emulsion, or to any peach borer effects. (Rosen, Aug. 15)

Bacterial spot (Bacterium pruni):

Delaware: On Elberta, May 31, leaf infection at Seaford; June 28, heavy twig infection at Milton; July 12, fruit infection at Seaford. Most disturbing disease throughout peach orchards in Sussex County. Trees at this time showing 50 per cent defoliation. Twig infection more common than ever observed. Can consider it in epidemic form this season. (Adams, Aug. 15)

Illinois: An unusually early infection on the fruit caused unsightly scars. Leaf infection is very heavy but defoliation is not extreme in most cases. The early infection on leaves was the heaviest ever known. Excessive leaf surface due to wet weather is aiding the maturing fruit. (H. W. Anderson, Aug. 1)

Brown rot (Sclerotinia fructicola):

Oregon: Rather worse in the Willamette Valley than usual. Reported as entering wounds in fruit made by spotted cucumber beetle which is unusually abundant this year. (Barss, Aug. 1)

Illinois: Early peaches suffered from brown rot, but the main crop of Elberta and Hale is still in good condition. Dry weather is holding the threatened epidemic in check. (H. W. Anderson, Aug. 1)

Blight (Coryneum beijerinckii) in Oregon: Serious fruit-spotting from this disease is evident this year. Late rains in the spring evidently favored the infection of fruit to a greater extent than usual. (Barss, Aug. 1)

CHERRY LEAF SPOT (COCCOMYCES HIEMALIS) IN KANSAS

"General in eastern half of state. Not as severe as in 1927, but more so than for average year. Many trees and large limbs died during the last winter and this spring due to devitalizing effect of defoliation by leaf spot in 1927.

"Very little fruit this year. There was a light set of fruit buds and a frost in the late spring killed most of them." (Elmer, Aug. 1)

BACTERIAL BLIGHT OF WALNUT LESS PREVALENT IN OREGON

H. P. Barss reports (August 1) that a very great reduction in the amount of blight (Bacterium juglandis) on walnuts as compared with other years, especially the last two, is reported from all the districts of western Oregon. Apparently losses will be very small although scattered infections occur everywhere.

A NEW DISEASE OF SALVIA

A diseased plant of Salvia has been received from H. H. Wedgworth, collected at Brookhaven, Mississippi, in July. The organism found to be present is Sphaeropsis salviae Hollos. This is the first report of its occurrence in the United States to the Plant Disease Survey. It has been found in Hungary. (G. Hamilton Martin)

SOME DISEASES OF LILIES

Kabatiella sp. Specimens of Lilium auratum received from a grower in Virginia showed a scorched appearance of the tips and buds. What appeared to be a species of Kabatiella was isolated from the diseased areas. The trouble was reported to be quite common on both greenhouse and out-of-doors plants. In one large planting of about 4,000 over 75 per cent of the plants were killed and others seriously affected.

Fusarium sp., causing disease on plants from Virginia, Ohio, and District of Columbia, July.

Botrytis sp., found on material from Ohio and Alabama, July.

Cladosporium sp. Present on collections from Alabama, Ohio, District of Columbia, and Virginia, July. (Vera K. Charles and G. Hamilton Martin)

SWEET PEA ANTHRACNOSE REPORTED FROM MAINE

A specimen of Glomerella cingulata on sweet pea was sent in by Donald Folsom, accompanying what seems to be the first report of its occurrence on that host in Maine.

LEAF DROP OF ELM IN KANSAS

"Numerous inquiries coming in from eastern half of Kansas regarding the cause for shedding of leaves of apparently healthy elm trees. Similar trouble was reported in 1927. In some cases the trees die. The cause has not been determined. Leaves and all trees examined have shown no indications of a pathogenic disease. In all cases noted there are adjoining elms which are unaffected. This reduces the likelihood of a soil or environmental cause for the trouble." (Elmer, Aug. 1)

WILLOW SCAB (FUSICLADIUM SALICIPERDUM)

"Have seen or collected specimens of this disease this year in Connecticut, New York, Massachusetts, New Hampshire, and Maine. Have found it on six different species of willows in nine towns in northwestern Connecticut. At Norfolk all large trees of Salix alba var. vitellina were entirely defoliated except four sprayed ones in our experiment for control."(Clinton, Aug. 15)

MASSARIELLA CURREYI IN LINDEN

Diseased limbs of linden collected at Trenton, New Jersey, by C. M. Scherer were received last month for determination. The organism causing the trouble was determined as Massariella curreyi (Tul.) Sacc. Both conidial and perfect stages were found. This fungus was found in 1903 by Dr. Shear on dead branches of a linden growing in the U. S. Department of Agriculture grounds at Washington. What appeared as reported by Ellis and Everhart to be this species was found at West Chester, Pennsylvania. It has been reported from France, Italy, England, and Germany. (Vera K. Charles and G. Hamilton Martin)